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U. S. Department of Agriculture



SEED

For Northeastern Farmers...





Over 2/3 of Your Feed is Home-Grown

EACH year, dairymen and poultrymen in G.L.F. territory feed about 9 million tons of digestible nutrients to their livestock and poultry. More than 6½ million tons of those digestible nutrients are grown on Northeastern farms. Home-grown grains account for ¾ million tons. Roughage in the form of hay, grass and silage makes up all the rest.

Good yields and low-cost home-grown feeds can not be produced without good seed. To produce the 72% of the feed nutrients they use, Northeastern farmers must have the very best seed that can possibly be secured.

That is also why in G.L.F. first-rate importance is placed on the seed service. Actually more feed is produced from G.L.F. seed than is handled in the form of purchased feed by the G.L.F. Feed Service.



The G.L.F. Seed Service

THROUGH their G.L.F. Seed Service, Northeastern farmers are provided with the best seed that can be had — adapted seed of known origin. To get that kind of seed, G.L.F. seedmen operate across the country in eighteen northern states.

Careful Selection

Early each summer G.L.F. seedmen scout the various seed crop producing sections of the country and make their estimate of probable production and discover where the best seed is growing that year. These surveys are of great value in estimating crop prospects and enable G.L.F. to obtain adapted seed for patrons at the lowest possible prices.

In late summer actual seed selection starts. The seedmen move from area to area as seed is harvested. They purchase only from approved areas where they can obtain high quality seed that is free from noxious weeds, and adapted to our hardy Northeastern conditions. Being in the right place at the right time and knowing the market trend permits G.L.F. to make good buys for patrons.



This booklet is prepared to help G.L.F. patrons in making their plans and to guide them in selecting the seed and fertilizer they will need to carry out those plans. Keep it for reference, and consult your G.L.F. Service Agency for supplies especially suited to local conditions.

Efficient Processing

G.L.F.'s retail seed prices are favorably effected by "know-how" in cleaning and processing by trained men with the best of modern equipment plus many unique efficiencies in plant operations that cut down labor and speed-up processing. However, in both processing and procuring G.L.F. seeds, quality is never sacrificed for price.

The G.L.F. Seed Service checks and examines every lot of seed for:

1. **PURITY**—To prevent weed contamination.
2. **COLOR & QUALITY**—Indicates origin and inherited vigor and vitality.
3. **CRACKED OR BROKEN SEEDS**—To eliminate seed that will not grow, or produce only weak sprouts.
4. **GRADING**—To enable more uniform sowing.
5. **TEST WEIGHT**—Large, heavy seeds produce sturdy plants.
6. **OTHER CROP SEEDS**—To prevent crop mixtures.
7. **GERMINATION**—Only seeds which grow are useful.

A handwritten signature in dark ink, reading "C. H. Silcof". The signature is written in a cursive, flowing style.

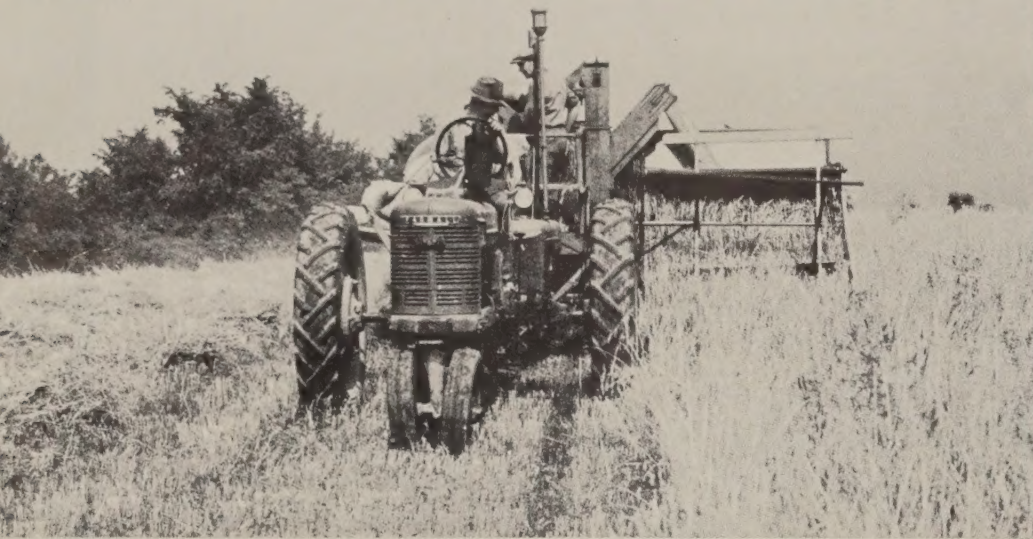
President of G.L.F. Mills



Grasses and Legumes

(See Pages 6 & 7)

Forage provided by hay and pasture is your most important feed crop. Top quality seed is of first importance in a successful hay and pasture program.



Small Grains

(See Pages 10 & 11)

New seed varieties have helped home grown grains play an increasingly important role in the Northeast. The more feed you produce, the less feed you buy.



Hybrid Corn

(See Pages 8 & 9)

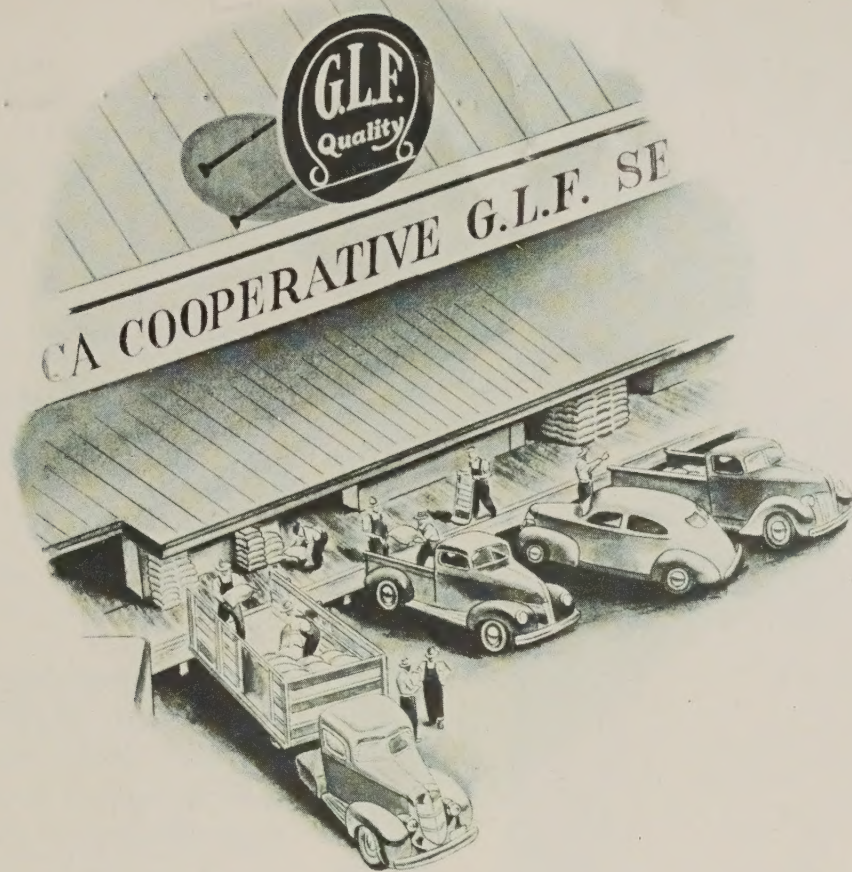
Corn yields more feed per acre than any other crop. Grain corn out-yields all other grain crops. Corn for silage out-yields all other roughage crops. Use G.L.F. Hybrids for maximum yields of either silage or grain.



Vegetable Seed

(See Pages 12 & 13)

Whether you plant a small home garden or acres of commercial vegetables, you have available a full line of the highest quality vegetable seeds through your G.L.F. Service Agency.




A Complete Seed Service in Your Community

RIGHT in your community there is available a complete seed service for every field on your farm. The G.L.F. Seed Service has developed a program that provides every Northeastern community with the seeds particularly adapted to that area.

This unique service has been made possible by farmers working hand in hand with their cooperative. After all, the final test of any seed is its performance on the farm. Therefore, the G.L.F. tests and college recommendations are only guides for the G.L.F. Seed Service. The performance of seed as reported by farmers through their local cooperatives determines in the end the varieties and types of seed which the G.L.F. Seed Service offers.

One variety of seed may do exceptionally well in some sections of G.L.F. territory while it's not adapted to other sections. One hybrid corn may produce high yields of grain on some Northeastern farms and not even mature on others where the season is shorter. In some communities farmers may sow commercial vegetable crops that wouldn't be practical in most communities. But whatever the seed requirements of your farm, you will find a complete seed service at your local G.L.F. Service Agency that can provide you with high-quality adapted seed for any crop you want to grow.



G

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egumes

Grasses and legumes make up our most important crops. Northeastern agriculture is built around hay and pasture which supply much more than half of the digestible nutrients fed our livestock.

Hay

Dairymen generally consider Alfalfa the most desirable legume. If it grows well, they use it almost exclusively as the legume in hay mixtures. Where Alfalfa does not do well Medium Red Clover is used mainly with a sprinkling of Alfalfa which may do well in spots on the field. If there are low, wet spots a small amount of Alsike is recommended. Ladino Clover is used by some dairymen in all their mixtures, while others use it in place of Alsike. Ladino is most valuable in a hay mixture when the aftermath or second crop can be grazed.

As a companion grass with legumes, Timothy has long been the most popular. More recently Smooth Brome Grass has come into use on the better Alfalfa land. On thin soils, which may be wet in the spring and dry in the summer, Red Top is often used in the mixture.

There is no best hay mixture. Most farmers make up a mixture which is best adapted to their individual farm conditions. (Some of the mixtures most commonly used can be found on Page 14.) Only experience will answer what is best for your farm. However, more and more farmers who

feed their own hay are finding it advantageous to grow a mixture of grasses and legumes. Here are some of the reasons:

1. Better stands of hay are secured. Northeastern fields vary as to soil, fertility and drainage. Sometimes one legume or grass is better adapted to part of the field than are others.
2. A mixture of seeds gives insurance against a seeding failure. Weather and soil conditions are often so unfavorable at seeding time that one legume or grass will germinate and catch, while the others will not survive.
3. A grass sod in the legume crop helps protect the crowns of Alfalfa or Clover during severe winter weather.
4. The grasses grow more luxuriantly and utilize part of the extra nitrogen supplied by legumes.
5. A legume-grass mixture generally results in finer stemmed legumes.
6. Grasses help prevent lodging of the legumes.
7. Mixed hay cures faster.
8. Mixed hay tends to give a good crop for a longer period. Grasses replace the legumes as they die.

Pasture

Many G.L.F. dairymen are finding that it is profitable to improve their pasture. Individual farms require individual treatment. Land which is too rough and rolling to be plowed and seeded can often be brought to a more productive level by the application of lime, plus superphosphate, mixed fertilizer or barnyard manure. Generally, the lime, plus superphosphate or mixed fertilizer will increase the percentage and growth of Wild White Clover and grass without the addition of any seed.

Where it is possible, Northeastern farmers will generally find it profitable to increase the pasture production by plowing, seeding and fertilization.

Important Grasses and Legumes

Alfalfa, because of its deep and extensive root system, is drought-resistant and produces big yields of forage. It does require well limed soil and good drainage. About 8-12 pounds of Alfalfa per acre is generally used when seeded as the only legume with Timothy or Brome. On fields not ideally suited to Alfalfa, part of the Alfalfa is replaced by varying amounts of Clovers, G.L.F. Grimm, Northern Variegated, and Northern Common Alfalfa seed is grown in the northwestern states which have severe winter conditions similar to those of G.L.F. territory. Plants from this seed are very hardy and withstand our northern winters and give large yields of high protein hay.

Ladino Clover is the outstanding legume for pastures. However, Ladino is being successfully used by many dairymen as a perennial legume on fields not well adapted to Alfalfa. Ladino Clover is particularly useful in a hay mixture where the second crop or aftermath can be used for grazing. G.L.F. Ladino Clover seed is produced in the best areas of the West. It is of high purity and makes vigorous growing plants.

Medium Red Clover often produces a good hay crop on land where Alfalfa may not do well. Medium Red Clover does best on well limed, well drained soil, but tolerates unfavorable conditions better than Alfalfa although not as well as Alsike. It yields a first and second cutting of hay the year after seeding, but only a few plants survive to produce hay the second crop year. From 3 to 4 pounds is often used with 6 pounds of Alfalfa, or up to 6 or 8 pounds per acre when Red Clover is the main legume and Alfalfa is not used.

Alsike Clover thrives on fields which are a little too wet for Red Clover or Alfalfa. It perhaps tolerates a little more acidity; it makes a very fine stemmed, palatable hay, but makes only one crop a year. On fields of variable acidity and drainage, 2 to 3 pounds of Alsike in the hay mixture often insure a stand of legumes in areas of the field which otherwise would be occupied only by grasses.

Timothy, the most popular grass, is seeded at a variable rate from 5 to 8 pounds per acre, depending upon how well legumes are adapted to the fields. Timothy serves a very useful purpose in producing high yields of mixed grass and legume hay. It is very palatable and nutritious when cut early. Timothy, when grown alone does not make good dairy hay.

Smooth Brome Grass is being used in place of Timothy on some farms which have good Alfalfa soil. It withstands drought and is very palatable. It provides for aftermath grazing. While Smooth Brome makes a good hay plant, it is also able to withstand reasonably close grazing. It should be used only on highly fertile, well drained soil. While Brome has many advantages, it has the disadvantage of being difficult to sow, owing to the large chaffy seed. It is generally mixed with the Oats or with the fertilizer and sown shallow.

Orchard Grass when properly managed and grazed early and closely makes a vigorous growing productive companion to legumes. It withstands summer heat and dryness reasonably well. Unless it is closely grazed it tends to grow in bunches and become coarse and unpalatable. Orchard grass is not recommended for hay, since by haying time it becomes woody and unpalatable. However, it is excellent for pasture or grass silage.

Reeds Canary Grass is a tall-growing, coarse grass particularly adapted to wet soils where Orchard or Brome grass will not thrive.

FERTILIZER

Fertilizer For Hay and Pasture Seedings—

Most hay and pasture seedings in G.L.F. territory are made with or on oats, wheat, or barley. Usually the fertilizer recommended for these crops is adequate to start the seeding. (See small grain fertilization.) It should not, though, be counted upon to maintain the resulting hay or pasture mixture in a productive state for several years. Where legume seedings are being made without a nurse crop on land that was well manured the previous year or following a heavily fertilized crop like potatoes, 300 to 600 pounds to the acre of 20% superphosphate is usually adequate. However, on light soils or where only moderate amounts of manure and commercial fertilizer have been applied and for permanent pasture that has been plowed for reseeding, 300 to 500 pounds of 5-10-10, 8-16-16, or 0-20-20 will

RECOMMENDATIONS

usually give better results. (See Page 14 for a report on the fertilizer situation.)

Top Dressing—Hay and Pasture—Superphosphated manure has been a standard recommendation for the top dressing of established seedings for many years. There is not always enough manure, though, to cover all the land that may profitably be top-dressed. Recent research indicates, too, that many farmers are not using sufficient potash on Ladino clover and alfalfa. When superphosphated manure is not available such grades as 0-20-20, 0-19-19 plus borax, or 0-14-14 are normally recommended. Recommended rates of application range from 300 to 700 pounds an acre a year depending on the grade and the natural fertility of the soil. New Jersey recommendations are generally higher than New York and Pennsylvania.



Hybrids

FOR THE

Northeast

AN acre of corn harvested for silage generally yields more feeding value on a dry matter basis than any other roughage crop that can be grown in the Northeast. An acre of corn harvested for grain yields more livestock feed than an acre of wheat, oats, or barley. On the other hand, corn requires about three times as much labor in planting, cultivating, and harvesting as hay, pasture, or the small grains. With labor scarce and expensive, it is of first importance that farmers have the seed corn best adapted to local growing conditions and then follow good planting and cultivating practices.

To make every acre and hour of time produce as much as possible for Northeastern farmers, G.L.F. has developed a seed service on hybrid corn that is second to none.

The Right Hybrid for Your Farm— For Silage or Grain

G.L.F. patrons are spread over three states. They farm at altitudes ranging from sea level up to more than 2,000 feet. Their growing season varies from 90 to 130 days. Most G.L.F. patrons grow corn primarily for silage, but quite a few want to grow some corn for grain also. Despite these varying requirements, every patron may select from the G.L.F. line of hybrids a corn of known ancestry and proven yielding ability for either silage or grain that will fit the growing conditions of his own farm.

Developing such a complete line of hybrid seed corn has been made possible by following the advice of the agricultural colleges, careful selection and testing (especially for dry matter content), and then re-testing under actual farm conditions over a period of many years.

Hybrid Headquarters

1. Produce Bigger Yields. A G.L.F. adapted hybrid corn will produce more grain or more silage per acre than open-pollinated corn—10 to 25% more in most cases. The extra cost of seed is returned many fold.

2. Easier Harvest. G.L.F. Hybrids stand up. They produce strong, sturdy stalks and roots which make harvesting easier and faster.

3. Fit Your Farm. The best hybrid is the one that is particularly adapted to the growing conditions on your farm. If you are growing corn for silage, it should reach the dough stage at normal silo filling time. For grain production a hybrid should be selected to ripen safely before frost.

Hybrid Headquarters

Within the next few weeks a G.L.F. Hybrid Corn chart will be posted in your G.L.F. Service Agency. From it you will be able to select the right hybrid for your farm.

The employees in your Service Agency know G.L.F. Hybrid Corn varieties. They will be glad to help you in the selection and will have the hybrids on hand for you when you want them.

Planting Corn

Recent research indicates that on the more productive soils, substantial increases in yields may be

obtained in many instances simply by increasing the planting rate. This does not mean that all farmers should plant corn thicker for some plant it too thick already.

The number of stalks per acre rather than the exact spacing seems to be the important factor. Cornell agronomists recommend 18,000 stalks per acre as about the maximum on the more productive soils and about 14,000 stalks per acre for average conditions. Pennsylvania extension agronomists feel that 14,000 is the top for the most productive soils with 10,000 about right for normal conditions.

In New Jersey most corn is planted in hills. Recommendations are—heavy fertile soils, drop three seeds per hill in 3 to 3½ foot rows. On light soils, drop 3 seeds per hill in 3½ to 4 foot rows.

The following table shows the number of seeds per hill with different planting rates. A pound of seed corn contains 1200 to 1800 kernels, depending on the graded size. Many authorities feel that under ordinary planting conditions 100 seeds will produce 80 plants. The planter should be checked with each lot of seed.

RATE OF PLANTING

| Stalks per Acre | 42" Row | 42" x 42" | 38" Row | 38" x 38" |
|-----------------|-------------|-----------|-------------|-----------|
| 7,000 (thin) | 21.0" apart | 2 stalks | 23.5" apart | |
| 9,000 | 16.5" " | | 18.5" " | 2 stalks |
| 11,000 | 13.5" " | 3 stalks | 16.5" " | |
| 13,000 | 11.5" " | | 13.0" " | 3 stalks |
| 14,000 | 10.5" " | 4 stalks | 12.0" " | |
| 18,000 | 8.25" " | | 9.25" " | 4 stalks |

FERTILIZER

RECOMMENDATIONS

A crop of corn that will yield 15 tons of silage or 150 bushels of ears to the acre requires about 120 pounds of available nitrogen. Good corn land is the first requirement for such yields. The 120 pounds of required nitrogen might then be furnished as follows: 50 pounds from an average good sod containing some legumes, 60 pounds from 12 loads of superphosphated manure (manure contains twice this amount but this is all that is normally available the year applied), and 8 to 12 pounds from the application of 200 pounds of 6-12-6, 5-10-5 or 4-12-8 commercial fertilizer in the row.

Recommendations generally call for about 200 to 500 pounds to the acre of 10-10-10, 5-10-10, 5-10-5, 6-12-6, 4-12-8 or 4-12-4 with normal manuring on a good sod. The higher nitrogen grades and rates are preferred where manuring has been light. One hun-

dred pounds of 10-10-10 will replace about two tons of manure the year applied but will not have as much residual effect the following year. Unless the planter places the fertilizer 1½ to 2 inches to the side of the seed no more than 200 pounds of 10-10-10 or 300 pounds of the other mixtures should be applied with the planter. Any additional quantity should be applied separately.

High nitrogen grades are likely to be short. Good substitutes for 10-10-10 are 6-12-6, 5-10-5, and 5-10-10.

Sidedressing at Last Cultivation. On light sandy soils where little if any manure has been applied, side dressing at the last cultivation with 100 to 150 pounds to the acre of ammonium nitrate is often desirable. (See Page 14 for a report on the fertilizer situation.)



Small Grains

FOR THE NORTHEAST

Small grains fit particularly well into the pattern of northeastern agriculture. This is especially true of oats and winter wheat. They make an excellent companion crop for seeding land to pay and pasture. They both provide top quality bedding for northeastern livestock. They work well in crop rotations and most small grains can be used for northeastern livestock feeding.

Small grains have become increasingly important during the past few years. There are two main reasons for this. First, because grains have been high priced and hard to get in feed-deficit areas such as the Northeast. Second, because plant breeders through new techniques have been able to develop higher yielding varieties, that make the production of small grains more profitable.

SPRING GRAINS

Oats

Oats play an important part in northeastern crop rotations and feeding programs. The new technique of hybrid breeding has brought new and improved oat varieties. The G.L.F. Seed Service works closely with the Agricultural Colleges and experiment stations to bring patrons the most dependable varieties.

The northeastern farmer wants a variety of oats adapted to the particular climatic and soil conditions on his farm. The variety which he selects should depend upon the fertility of his soil. The time of sowing plays an important part in the variety to be grown. Leaf and stem rust become more troublesome with the approach of warm weather and will do more damage to late sown oats. Sometimes early sown oats develop rapidly and reach safe maturity before the appearance of rust epidemics.

G.L.F. has available a large assortment of approved, dependable varieties to meet the varying demands of many different farm conditions.

Clinton. On very fertile, well manured dairy farms, this new stiff straw variety should be grown. Good growths of straw will result on such soil even though Clinton straw is moderately short. On less fertile soil, this new variety may have too short straw to please some farmers. G.L.F. patrons will want to consider the effect of the oat crop on their grass seedings. Clinton, because of its very stiff, medium

height straw, gives better seedings. Before selecting a variety, farmers should decide whether or not they are going to combine the crop. If so, they should definitely use a variety like Clinton, which has very stiff straw that ripens a little later than the grain and does not crinkle and lodge. Oat diseases must also be considered. Clinton is resistant to leaf and stem rust and to the very severe oat blight which has wrecked so many fields of oats in the past two years.

Mohawk. Similar in appearance and performance to Clinton. They may be used interchangeably.

Vicland Oats are useless and unproductive in most areas of G.L.F. territory due to the oat blight known as *Helminthosporium*, to which they are very susceptible. This variety should be supplemented with the new Clinton or Mohawk oats.

Llenroc, Ithacan and Ajax. Farmers who want large amounts of straw and who do not have to consider hay and pasture seedings with their oats, will perhaps want to use the older late maturing varieties. Some growers still like to sow Llenroc, Ithacan or Ajax, which are excellent yielders, although highly susceptible to rust. If sown, they should be planted early.

Barley

Barley is grown for feed on the better, more fertile soils in some areas of G.L.F. territory. Only on the better soils does barley out-yield oats in feed production. G.L.F. barley is of very high quality and is produced in the best barley growing sections available.

Alpha is the most popular variety. It is 2-rowed, rough awned and has a fairly stiff straw.

Wisconsin 38 is a smooth awned, 6-rowed malting type barley, with a rather weak straw, and is preferred by some barley growers.

Bay, a new Michigan variety, is being offered this year by G.L.F. It is similar in appearance to Wisconsin 38 and is a 6-rowed, smooth awned type with fairly stiff straw. It is considered by many growers to be superior to Wisconsin 38.

Soybeans

Soybeans require well drained and very fertile soil in an area where warm weather comes rather early in the spring, and summer temperatures are high. Only limited areas of G.L.F. territory are suited to economical soybean production. The shortness of the season in much of G.L.F. territory requires very early varieties, such as Cayuga and Earlyana, although New Jersey and part of Pennsylvania can

grow the fuller season varieties like Kingwa and Lincoln.

Cayuga is a black seeded variety and the earliest of the G.L.F. varieties. The straw is short and not adapted for hay purposes.

Earlyana is a new, very early yellow bean, slightly later than Cayuga. It is very productive and rapidly gaining in popularity.

Seneca is a yellow bean about two weeks later than Cayuga and grows somewhat taller.

Kingwa is a late maturing variety and is an improved selection from Wilson. The seed is black, which is not objectionable when this variety is used for hay. Kingwa is too late for grain production, except in New Jersey and part of Pennsylvania.

Lincoln is a new, late maturing, full season yellow bean, very popular in the mid-west and adapted to only the best sections of G.L.F. territory when used for grain.

WINTER GRAINS

Wheat

Considerable acreage of wheat has been grown in G.L.F. territory for many years. A high percentage of the acreage is seeded to soft, white wheat in western New York where it is grown for milling purposes. In eastern New York, New Jersey and Pennsylvania, most of the wheat is grown for feed purposes. Most wheat grown in Pennsylvania and New Jersey is of the red varieties.

Yorkwin is a very popular variety of white wheat, having a white chaff and white kernel. It is a high-yielding variety with moderately stiff straw.

Cornell-595 is a new variety and is rapidly gaining in popularity. It is a white wheat with a bronze chaff and on many farms gives slightly larger yields than Yorkwin.

Thorne is a comparatively new red wheat popular in Pennsylvania and New Jersey. It is moderate in height and stands up well.

Leaps Prolife is an old standard red variety which has been grown in Pennsylvania and New Jersey for many years. The straw is not quite as stiff as Thorne.

Winter Barley

Wong Winter Barley is a variety developed at Cornell University and is the most popular variety grown in G.L.F. territory. It has a stiff straw which makes it adapted to combining.

FERTILIZER

In G.L.F. territory oats and spring barley usually follow corn in the rotation and the corn often receives a liberal application of manure. Considerable nitrogen is often available for the oats or barley from the manure applied the previous year. Under such conditions, 300 pounds of 20% superphosphate is the normal recommendation. On light soils, especially if an alfalfa or Ladino clover mixture is seeded with the oats or barley, 0-20-20 or 0-14-14 is usually preferable. Where the application of manure the previous year was under 10 tons to the acre, 300 to 400 pounds to the acre of 6-12-6, 6-18-6, 4-12-8, or 5-10-10 is recommended.

Mohawk and Clinton oats are more resistant to lodging than the older varieties. Preliminary experi-

FOR SMALL GRAINS

ments indicate that it is likely to be profitable to apply more nitrogen fertilizer for them than for other varieties, more work is needed, though, before this can be definitely recommended. Where lodging is a problem fertilizer such as 0-20-20, 0-14-14 or straight superphosphate should be used.

Winter wheat and winter barley usually follow oats or spring barley and 300 to 400 pounds of 6-18-6 6-12-6, 4-12-8, or 5-10-10 is recommended. If the wheat is to be lightly topdressed with manure during the winter the amount of mixed fertilizer may be cut in half. Where wheat follows heavily fertilized potatoes and lodging is a problem, 200 pounds of superphosphate is adequate. (See Page 14 for a report on the fertilizer situation.)

G.L.F.

Vegetable Seed

Providing farmers with a full line of high quality vegetable seed is a very important part of the over-all G.L.F. Seed Service. There are two classes of farmers who need vegetable seed. Those who grow a small home garden for their own use, and those who grow vegetables commercially. To those farmers who grow commercial vegetables for their living the G.L.F. Vegetable Seed Service is just as important as any of the field services.

The G.L.F. Vegetable Seed Service is well equipped to handle the large quantities of seed required by commercial growers and home gardeners in G.L.F. territory. All of this seed is selected solely on its ability to produce good crops. Quality is controlled carefully by field testing, laboratory treatments and special breeding programs. New varieties are offered only after field tests prove that they will meet the needs of patrons.

Seed Quality Control

In order that Patrons can place dependence on G.L.F. Seed and be sure of its high quality, the following quality control program is followed on all vegetable seed:



1. G.L.F.'s list of varieties of all vegetable crops is based on careful Experiment Station tests. A variety must be adapted to G.L.F. territory before it is offered to G.L.F. Patrons.

2. Quality control tests are run on all lots of vegetables handled by your cooperative. The selection of seed growers is based upon the rigid standards maintained at the trial grounds. No new supplier is taken on without careful testing to prove that he is better than those now delivering seed.

3. Seed is grown in areas where climate, soil conditions, and other factors assure G.L.F. of the best seed obtainable. In many instances, regions are selected because seed grown there is free of seed borne diseases. (Especially true of garden beans and peas.)

4. Stock seed of some kinds are maintained here in the East to be sure the seed will be hardy and adapted to G.L.F. climate.

5. G.L.F. is carrying on a careful breeding program under the direction of trained personnel to improve the performance of many crops.

6. Many kinds of seed are treated by G.L.F. according to the latest recommendations of the Agricultural Colleges to control seed borne diseases and reduce the losses from damping off and other soil diseases.

7. Germination tests made by the seed laboratories are recorded on each package to enable the patron to properly plant the crop.

Cabbage

Much of G.L.F. territory, because of its soil and climate, is well adapted to the growing of cabbage. In central and western New York much of the cabbage is grown for kraut. In other areas, late cabbage is grown by general farmers as a market crop.

Six Good Reasons For Using G.L.F. Farm Tested Cabbage Seed

1. A choice of varieties to fill all market demands for season of maturity and size of head. The list includes both regular varieties and those resistant to yellows disease.

2. Seed supplies are purchased on the basis of trial ground tests, thus assuring high quality seed—seed that is true to type and of high yielding ability.

3. G.L.F. carries on its own breeding program with the popular Danish Ballhead variety—grows the mother seed on its trial ground farm. The mother seed is then sent to adapted areas for multiplication.

4. Accurate labeling of seed supplies on the basis of germination tests made by the state seed laboratory.

5. All cabbage seed is hot water treated by College methods to control certain seed borne diseases which might limit yield.

6. All patron supplies of cabbage seed are field tested at Ithaca and throughout G.L.F. territory to make sure it meets G.L.F. quality specifications.

Sweet Corn

Sweet corn is a popular commercial crop in G.L.F. territory. The G.L.F. Vegetable Seed Service offers high-quality, adapted seed of a wide selection of proven sweet corn varieties.

Hybrid sweet corn produces larger yields and more uniform ears. Most sweet corn growers are now using hybrid varieties. The G.L.F. Vegetable Seed Service offers a complete line of hybrid sweet corns which are superior in quality, are resistant to disease and out-yield the older, open-pollinated types.

How To Order Seed

Any variety or strain of G.L.F. vegetable seed is available through your local G.L.F. Service Agency. By placing the order locally, G.L.F. Patrons can obtain help from Service Agency personnel in selecting the right seed in the proper quantities without the bother of filling out mail orders.

Usually orders can be filled at once from the seed supply carried locally. However, should larger quantities be needed, or should some varieties be out of stock, an order will be placed for you with the seed warehouse for immediate delivery.



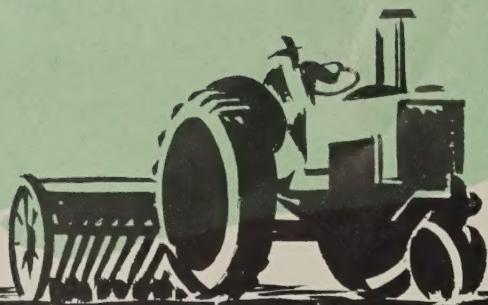
Ask your G.L.F. Service Agency for a copy of the 1948 Garden Seed Catalog

G.L.F. HYBRID SWEET CORN VARIETIES

Early, medium and late varieties of hybrid sweet corn planted at the same time will give a continuous harvest over a month's time.

| Hybrid Variety | Inbred Number | Days to Maturity |
|----------------------|---------------|------------------|
| Spancross | 13:3 | 65 to 70 days |
| Marcross | 13:6 | 72 to 77 days |
| Carmelcross | 13:30 | 80 to 85 days |
| Early Lee or Pilgrim | 32:27 | 82 to 87 days |
| Lincoln | 39:23 | 85 to 90 days |
| Ioana (dry weather) | 39:45 | 88 to 93 days |
| Golden Cross | 39:51 | 88 to 93 days |

Spr^{ing}



THE FERTILIZER SITUATION

The overall situation appears somewhat better this season than for many years. There should be an ample supply of mixed fertilizer and superphosphate. High potash grades such as 5-10-10, 5-10-15 Sul-Po-Mag and 0-20-20 are in somewhat better supply. Dry nitrogen materials such as ammonium nitrate and nitrate of soda are very short of demand.

It will still be good business to take your fertilizer early if you wish to make sure of an ample supply of any particular analysis.

G.L.F. Fertilizers

The Soil Building division of G.L.F. operates 11 plants—one large plant at Baltimore and 10 moderate size plants strategically located to furnish the best possible service to patrons. Most carlot shipments of regular grades are handled from Baltimore. Less than carlot shipments and specialty grades are handled chiefly from the local plants.

G.L.F. mixed fertilizers are formulated from highest quality materials available. Analyses manufactured conform to the recommendations of the three agricultural colleges in our territory. All standard strength fertilizers carry five pounds of borax per ton. Specialty grades containing additional borax,

magnesium, or other secondary or minor plant foods are available in areas where they are needed.

Lime

Lime may truly be called the cornerstone of soil fertility. While lime is usually recommended in terms of the amount needed by the clover or alfalfa in the hay or pasture seeding, it should be kept in mind that with few exceptions other crops also benefit. If there is any doubt as to the need for lime the county agent should be asked to make a soil test and the indicated amount of lime applied prior to seeding. Fertilizer gives better results when the lime needs have been met.

HAY MIXTURE GUIDE

For sweet or only slightly acid soils in a good state of fertility enough well drained so that winter heaving is not serious.

| | Lbs. per acre |
|-------------------------|---------------|
| Alfalfa | 6 |
| Medium Red Clover | 4 |
| Alsike | 2 |
| Timothy | 6 |
| | <hr/> 18 |

For soils where winter heaving is a problem, but which are not wet for long periods and are in a good state of fertility, or where not enough lime has been used to justify the addition of alfalfa.

| | Lbs. per acre |
|-------------------------|---------------|
| Medium Red Clover | 6 |
| Ladino Clover | 1 |
| Timothy | 8 |
| | <hr/> 15 |

NOTE: For only 1 year of hay, substitute 4 lbs. of Alsike for 1 lb. of Ladino Clover.

Use on well drained, fertile, sweet soils where a good feeding hay is desired from 2 to 6 years.

| | Lbs. per acre |
|---------------|---------------|
| Alfalfa | 8 |
| Timothy | 6 |
| | <hr/> 14 |

NOTE: 8 lbs. of Smooth Brome Grass may be substituted for the timothy if the field is to be used for both hay and pasture.

Use on wet soils where hay is to be harvested from 1 to 3 years.

| | Lbs. per acre |
|-------------------------|---------------|
| Medium Red Clover | 3 |
| Alsike | 2 |
| Ladino Clover | 1 |
| Timothy | 5 |
| Red Top | 3 |
| | <hr/> 14 |

NOTE: 3 lbs. of Alsike Clover should be substituted for the 1 lb. of Ladino if hay is to be harvested for only 1 year.

Use on dry, shallow soils of low fertility or on soils that are wet in the spring and dry in the summer.

| | Lbs. per acre |
|--------------------------|---------------|
| Mammoth Red Clover | 8 |
| Timothy | 5 |
| Red Top | 3 |
| | <hr/> 16 |

For well limed soils where extremes of drainage exists in a crazy-quilt pattern in the same field.

| | Lbs. per acre |
|-------------------------|---------------|
| Alfalfa | 4 |
| Medium Red Clover | 3 |
| Ladino Clover | 1 |
| Timothy | 5 |
| Red Top | 2 |
| | <hr/> 15 |

A good mixture for hay silage, and pasture on fertile soils of good moisture-holding capacity where the maintenance of Ladino for the longest possible period is desired.

| | Lbs. per acre |
|---------------------|---------------|
| Ladino Clover | 2 |
| Timothy | 7 |
| | <hr/> 9 |

Legume Inoculation Pays

Patrons cannot afford to overlook legume inoculation in 1948 with seed costs at a relatively high level. Legume seed treated with inoculant puts the nitrogen forming bacteria into immediate contact with the young plants. This process costs only a few cents an acre, takes little time, and prevents nitrogen starvation of the legume plants. The result is increased hay yields and soil enriched with nitrogen that can be utilized by other crops in the rotation.

G.L.F. Cultures available are:

1. Alfalfa-clover combination
2. Peas and vetch
3. Soybeans
4. Birdsfoot Trefoil
5. Garden Seed

Planting for '48

SEED SUPPLY

Grasses and Legumes

In spite of a late cold spring and a dry, hot summer, G.L.F. has been able to accumulate adequate supplies of seeds with the exception of Medium Red Clover and Ladino Clover. The major Red Clover seed-producing area is located in the heart of the Corn Belt, which, during the summer of 1947, suffered most severely by the drought which greatly reduced the seed set. As a result the Red Clover price is very high and supplies are smaller than last year. To meet this situation, it is suggested that where possible more Alfalfa be used in the mixture inasmuch as it is relatively cheaper. Where Alfalfa is not adapted, part of the Red Clover may be replaced by some Alsike Clover. Good seed bed preparation and shallow sowing will make possible a lower rate of seeding to conserve supplies.

The Ladino Clover seed crop is slightly smaller than last year and demand from farmers in the Midwest has made a smaller supply available to the Northeast. As a result, the G.L.F. supply of Ladino Clover is smaller than last year and somewhat inadequate for the increased demand. Many of the college specialists feel that from one half to one pound of Ladino per acre is sufficient to give good stands.

Hybrid Corn

Fortunately, G.L.F. Hybrid Corns were grown in favorable areas this year and an adequate supply of all Hybrids is available. Lancaster Sure Crop and West Branch Sweep Stakes, the leading open pollinated varieties, are in ample supply and of unusually high quality.

Oats

There is a revolution in oat varieties. New varieties resistant to our worst oat diseases . . . leaf and stem rusts and Helminthosporium blight . . . have been developed. The demand for these new oats is such that a very large percentage of the oat seed purchased this year will be either Clinton or Mohawk. The breeding of these two varieties is very similar. They are almost identical in appearance and performance and they can be used interchangeably. There are plenty of Clintons. The supply of Mohawks is limited. "If Mohawks are not available," recommend the Departments of Plant Breeding and Plant Pathology at the New York State College of Agriculture, "growers are urged to obtain Clinton. In Cornell trials during the past three years, Clinton has given all-around performance similar to Mohawk."

SEEDING METHODS

In G.L.F. territory most seedings are made with spring sown crops like oats and barley that are harvested for grain. However, many seedings are made on winter wheat and winter barley. Still other seedings are made in August after the harvest of wheat, oats, potatoes, and such crops as canning peas. This last method is quite successful in the areas where there is sufficient time before cold weather for the seeding to become established.

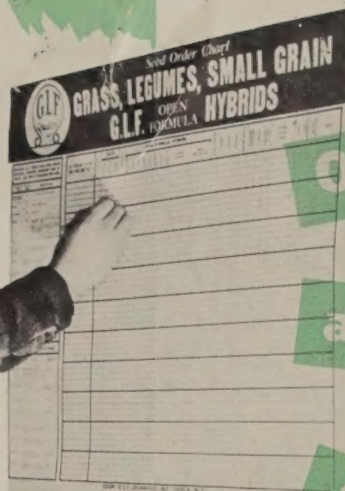
Irrespective of whether the seeding is made with a nurse crop or alone after a crop, the seed should be given only shallow coverage. One-quarter to one-half inch is ideal. Seed covered an inch or deeper is largely wasted. Firm seedbeds are very desirable for small seeds. Much seed that falls in front of the hoes or disks of grain drills is covered too deeply. Distributing the seed back of the hoes or disks is

a better practice. Covering it then with a cultipacker or roller is adequate.

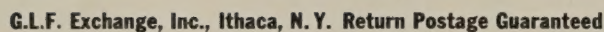
On wheat or barley the seeding should generally be made early, during the freezing and thawing period and certainly before the wheat or barley shows much growth.

Nurse crop smothering is a frequent cause of poor seeding and many failures. Heavy yielding crops of wheat, oats and barley make tough competition for the seeding. They deprive the seeding of needed sunlight, moisture and plant food. Where this occurs, in long season areas, seeding after the harvest of the nurse crop is usually successful. Reducing the rate of sowing of the nurse crop will usually be helpful in other areas.

One of the most successful methods of establishing seedings is to pasture off the nurse crop.



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